FEMA 209. 13 405

FLOOD INSURANCE STUDY

TROUP COUNTY, GEORGIA

UNINCORPORATED AREAS

DECEMBER 5, 1990

Federal Emergency Management Agency

COMMUNITY NUMBER 130405

NOTICE TO
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

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FLOOD INSURANCE STUDY

UNINCORPORATED AREAS,
TROUP COUNTY,
GEORGIA

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study investigates the existence and severity of flood hazards in the Unincorporated Areas of Troup County, Georgia, and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study has developed flood risk data for various areas of the community that will be used to establish actuarial flood insurance rates and assist the community in its efforts to promote sound floodplain management. Minimum floodplain management requirements for participation in the National Flood Insurance Program are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive or comprehensive than the minimum Federal requirements. In such cases, the more restrictive criteria take precedence and the State (or other jurisdictional agency) will be able to explain them.

1.2 Authority and Acknowledgments

The sources of authority for this Flood Insurance Study are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

The hydrologic and hydraulic analyses for Long Cane Creek and Shoal Creek were performed by Post, Buckley, Schuh & Jernigan, Inc. (the Study Contractor) for the Federal Emergency Management Agency (FEMA), under Contract No. EMW-87-C-2452. This study was completed in March 1988.

The hydrologic and hydraulic data for the Chattahoochee River was taken from a U.S. Army Corps of Engineers (COE) Special Flood Hazard Information Report (Reference 1).

The hydrologic and hydraulic data for Blue John Creek, Airport Branch 1, and Dixie Creek was taken from the Flood Insurance Study for the City of LaGrange, Georgia (Reference 2).

The hydrologic and hydraulic data for Yellowjacket Creek was taken from the Flood Insurance Study for the City of Hogansville, Georgia (Reference 3).

1.3 Coordination

A meeting held on October 10, 1986 was attended by representatives of FEMA, Troup County, and the Study Contractor. The purpose of this meeting was to identify streams requiring detailed study.

On January 10, 1990, the results of this Flood Insurance Study were reviewed and accepted at a final coordination meeting attended by representatives of the Study Contractor, FEMA, and the community.

2.0 AREA STUDIED

2.1 Scope of Study

This Flood Insurance Study covers the unincorporated areas of Troup County, Georgia. The area of study is shown on the Vicinity Map (Figure 1). The incorporated areas within the county were excluded from this study.

Flooding caused by overflow of the Chattahoochee River, Long Cane Creek, Shoal Creek, Yellowjacket Creek, Dixie Creek, Blue John Creek, and Airport Branch 1 was studied in detail.

Areas having low development potential or minimal flood hazards were previously studied using approximate analyses. The results were shown on the Flood Hazard Boundary Map for Troup County (Reference 4) and are incorporated into this Flood Insurance Study.

The areas studied were selected with priority given to all known flood hazard areas and areas of projected development or proposed construction through March 1993. The scope and methods of study were proposed to and agreed upon by FEMA and Troup County.

2.2 Community Description

Troup County is in midwestern Georgia, approximately 70 miles southwest of the City of Atlanta, and 40 miles northeast of the City of Columbus. Troup County is bordered on the north by Heard and Coweta Counties, Georgia; on the east by Coweta and Meriwether Counties, Georgia; on the south by Harris County, Georgia; and on the west by Chambers and Randolph Counties, Alabama. Troup County is served by Interstates 85 and 185; U.S. Routes 27 and 29, State Routes 1, 14, 18, 27, 54, 100, 109, 219, 403, and 411; and also by the CSX railroad. The 1980 population of Troup County was reported to be 50,003 (Reference 5).

The climate in Troup County is characteristic of the southeastern United States, with mild winters and warm summers. The average temperature is 70 degrees Fahrenheit. The county also has an average annual rainfall of 43.1 inches (Reference 6).

2.3 Principal Flood Problems

Flood problems in Troup County are due primarily to overflow of the Chattahoochee River, Yellowjacket Creek and Long Cane Creek. Most of the flood problems existing in the study area are in low lying agricultural areas.

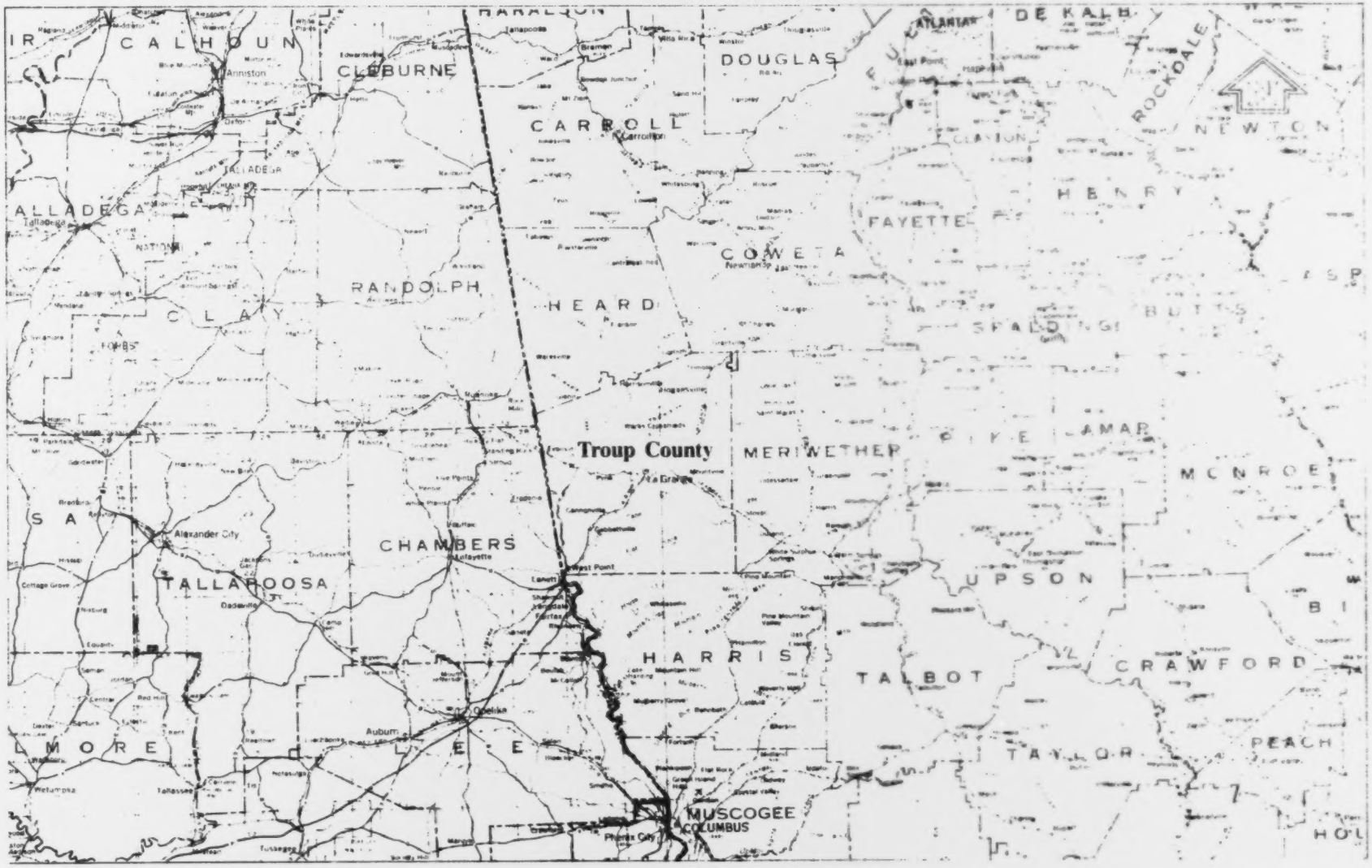

FIGURE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

TROUP COUNTY, GA
(UNINCORPORATED AREAS)

APPROXIMATE SCALE

16 0 16 32 48 MILES

VICINITY MAP

2.4 Flood Protection Measures

Some flood protection is supplied by the West Point Dam, however, even with this protection, damaging floods can still occur. West Point Reservoir is operated in accordance with the instructions issued by the Mobile District COE Reservoir Control and Meteorology Section. Releases from the West Point Reservoir are based on the pool level and on stages forecast at gages along the Chattahoochee River.

3.0 ENGINEERING METHODS

For the flooding sources studied in detail in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that is expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10-, 2-, 1-, and 0.2-percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long-term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 100-year flood (1-percent chance of annual exceedence) in any 50-year period is approximately 40 percent (4 in 10), and, for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for each riverine flooding source studied in detail affecting the community.

Peak discharges for the Chattahoochee River were established using regional flow equations and stream gages where available.

For Long Cane Creek and Shoal Creek, discharge-frequency relationships were determined by U.S. Geological Survey (USGS) regional regression equations (Reference 7). For areas where significant urbanization has occurred, these discharges were adjusted (Reference 8). A detailed discussion of the methodology used in the hydrologic analyses of Long Cane and Shoal Creeks is presented in Hydrology Study for Unincorporated Troup County (Reference 9).

Two methods were employed to determined peak discharge-frequency relationships for Blue John Creek and Airport Branch 1. The first method is based on the USGS report "Preliminary Flood Frequency Relations for Small Streams in Georgia" (Reference 10). This report, as revised, develops regression equations for the computation of peak discharges for small rural

basins. Equations were developed by the USGS. Because these equations do not provide for the effects of existing urbanization, it was necessary to modify using the Georgia Department of Transportation rule of thumb multipliers for residential, residential/commercial, and impervious areas (Reference 11). Peak urban discharges are then calculated on a weighted average as a function of both the types and sizes of areas within the watershed under study.

The second method is an extension of the first method, based on the equations for calculating flood frequency relations for the natural streams of Oklahoma (Reference 12) and includes effects of urbanization on flood conditions. Equations from Report 23-74 (Reference 11) were adjusted for the Atlanta area using the assumptions from this report, the rainfall-frequency data for Atlanta, and the Georgia Piedmont rural flood frequency relations (Reference 12).

An analysis of the City of LaGrange's topographical characteristics and rainfall-frequency data determined that the urban regression equations for the Atlanta area were satisfactory for Blue John Creek and Airport Branch 1.

Flood discharge frequencies for rural conditions on Dixie Creek were computed using USGS equations (Reference 10) and then adjusted for urbanization using regional equations (Reference 12).

Peak discharge-drainage area relationships for the 10-, 50-, 100-, and 500-year floods of each flooding source studied in detail in the community are shown in Table 1.

TABLE 1 - SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (SQ MILES)	PEAK DISCHARGE (CFS) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
CHATTAHOOCHEE RIVER					
about 4,000 feet upstream of U.S. Route 29	3,500	43,700	68,000	79,000	108,000
LONG CANE CREEK					
about 1,200 feet downstream of Hutchinson Mill Road	32.73	N/A	N/A	8,108	10,946
about 1,700 feet upstream of State Route 219	23.84	N/A	N/A	6,667	8,996
about 1,100 feet upstream of U.S. Route 27	13.83	N/A	N/A	4,764	6,421

TABLE 1 - SUMMARY OF DISCHARGES (Continued)

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (SQ MILES)	PEAK DISCHARGE (CFS) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
CHATTAHOOCHEE RIVER					
about 3,700 feet downstream of Stewart Road	6.21	N/A	N/A	2,906	3,911
SHOAL CREEK					
about 4.26 miles downstream of U.S. Route 29	16.87	N/A	N/A	5,386	7,262
about 2.23 miles downstream of U.S. Route 29	11.21	N/A	N/A	4,184	5,638
about 1,600 feet downstream of U.S. Route 29	9.58	N/A	N/A	3,798	5,115
YELLOWJACKET CREEK					
at State Route 54	44.27	N/A	N/A	7,480	N/A
BLUE JOHN CREEK					
at confluence of Airport Branch 1	12.8	3,550	5,100	5,750	7,350
DIXIE CREEK					
at mouth	3.92	1,225	1,872	2,161	2,911
about 2,400 feet downstream of State Route 219	3.06	1,085	1,652	1,908	2,568
about 0.85 mile downstream of Franklin Road	2.01	839	1,285	1,488	2,007
AIRPORT BRANCH 1					
at mouth	2.4	980	1,450	1,750	2,250

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals.

Overbank cross sections for Long Cane Creek and Shoal Creek were obtained by aerial photography (Reference 13). Below-water sections were obtained by field measurement at bridge structures and interpolated or estimated between structures. For the Chattahoochee River, Dixie Creek, Blue John Creek, Airport Branch 1, and Yellowjacket Creek, cross sections were field

surveyed. Data for the Chattahoochee River was supplemented by photographs obtained from the West Point City, Georgia, Manager.

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles and on the Flood Insurance Rate Map.

Channel coefficients (Manning's "n") used in the hydraulic computations were chosen by engineering judgement based on field observations of streams and floodplain areas. The channel coefficient for Long Cane Creek and Shoal Creek was 0.05, and the overbank coefficients ranged from 0.09 to 0.11. For Dixie Creek, Airport Branch 1, and Blue John Creek, channel and overbank coefficients ranged from 0.045 to 0.06, and from 0.055 to 0.085, respectively. For the Chattahoochee River, channel overbank values ranged from 0.02 to 0.08 and values ranged from 0.03 to 0.10.

Water-surface elevations of floods of the selected recurrence intervals were computed using the HEC-2 step-backwater computer program (Reference 14). Starting water-surface elevations for Long Cane Creek, Shoal Creek, Dixie Creek, Airport Branch 1, and Blue John Creek were calculated using the slope-area method.

Flood profiles were drawn showing the computed water-surface elevations for floods of the selected recurrence intervals. In cases where the 50- and 100-year flood elevations are close together, due to limitations of the profile scale. only the 100-year profile has been shown.

The hydraulic analyses for this study are based on the effects of unobstructed flow. The flood elevations shown on the profiles are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

All elevations are referenced to the National Geodetic Vertical Datum of 1929 (NGVD). Elevation reference marks used in this study are shown on the map and described in the exhibit labeled Elevation Reference Marks.

4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The National Flood Insurance Program encourages state and local governments to adopt sound floodplain management programs. Therefore, each Flood Insurance Study provides 100-year flood elevations and delineations of the 100- and 500-year floodplain boundaries and 100-year floodway to assist communities in developing floodplain management measures.

4.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1-percent annual chance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent annual chance (500-year) flood is employed to indicate additional areas of flood risk in the community. For each stream studied in detail, the 100- and 500-year floodplain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using

topographic maps of a scale 1:24000 with a contour interval of 20 feet (Reference 15).

The 100-year and 500-year floodplain boundaries are shown on the Flood Insurance Rate Map. On this map, the 100-year floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones A, AE, AH, AO, A99, V, and VE) and the 500-year floodplain boundary corresponds to the boundary of areas of moderate flood hazards. In cases where the 100- and 500-year floodplain boundaries are close together, only the 100-year floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

For the streams studied by approximate methods, only the 100-year floodplain boundary was delineated using the Flood Hazard Boundary Map for Troup County (Reference 4).

4.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces the flood-carrying capacity, increases the flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard. For purposes of the National Flood Insurance Program, a floodway is used as a tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 100-year floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 100-year flood can be carried without substantial increases in flood heights. Minimum Federal standards limit such increases to 1.0 foot, provided that hazardous velocities are not produced. The floodways in this study are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway studies.

The floodways for this study were computed for certain stream segments on the basis of equal conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. The results of the floodway computations are tabulated for selected cross sections and are shown in Table 2, Floodway Data. The computed floodways are shown on the Flood Insurance Rate Map. In cases where the floodway and 100-year floodplain boundaries are either close together or collinear, only the floodway boundary is shown. Portions of the floodways for Dixie Creek and Blue John Creek lie outside the corporate limits.

Along streams where floodways have not been computed, the community must ensure that the cumulative effect of development in the floodplain will not cause more than 1.0-foot increase in the base flood elevations at any point within the community.

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
CHATTAHOOCHEE RIVER								
A	5700	464	12,043	6.6	575.9	575.9	576.9	1.0
B	8240	360	9828	8.0	576.4	576.4	577.4	1.0
C	11,340	418	11,312	7.0	577.6	577.6	578.6	1.0
DIXIE CREEK								
A	7750[2]	135[5]	575	3.3	649.6	649.6	650.3	0.7
B	14,150[2]	91[5]	375	4.0	679.9	679.9	680.7	0.8
BLUE JOHN CREEK								
A	7590[3]	360[5]	1760	2.5	659.1	659.1	660.1	1.0
B	8740[3]	350[5]	1690	2.5	660.6	660.6	661.6	1.0
C	9740[3]	320[5]	1340	2.3	662.5	662.5	663.3	0.8
D	10,940[3]	50[5]	410	7.2	665.2	665.2	665.5	0.3
AIRPORT BRANCH 1								
A	2660[3,4]	55	340	5.0	646.0	646.0	646.8	0.8

[1]FEET ABOVE U.S. ROUTE 29
[2]FEET ABOVE MOUTH
[3]FEET ABOVE CONFLUENCE OF AIRPORT BRANCH 1
[4]FEET ABOVE CONFLUENCE WITH BLUE JOHN CREEK
[5]THIS WIDTH EXTENDS WITHIN AREA NOT INCLUDED

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

TROUP COUNTY, GA
(UNINCORPORATED AREAS)

9

FLOODWAY DATA

CHATTAHOOCHEE RIVER—DIXIE CREEK—BLUE JOHN CREEK—AIRPORT BRANCH 1

The area between the floodway and the 100-year floodplain boundaries is termed the floodway fringe. The floodway fringe encompasses the portion of the floodplain that could be completely obstructed without increasing the water-surface elevation of the 100-year flood by more than 1.0 foot. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 2.

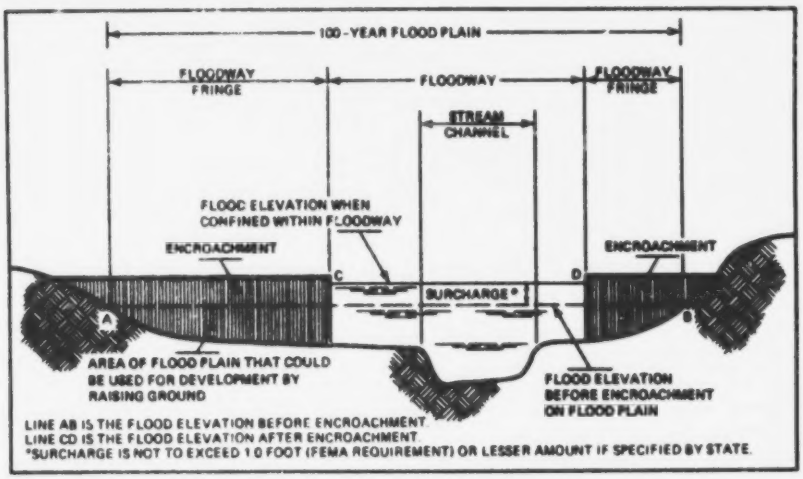
100-YEAR FLOOD PLAIN
FLOODWAY FRINGE
FLOODWAY
FLOODWAY FRINGE
STREAM CHANNEL
FLOOD ELEVATION WHEN CONFINED WITHIN FLOODWAY
ENCROACHMENT
ENCROACHMENT
C
D
SURCHARGE*
A
B
AREA OF FLOOD PLAIN THAT COULD BE USED FOR DEVELOPMENT BY RAISING GROUND
FLOOD ELEVATION BEFORE ENCROACHMENT ON FLOOD PLAIN
LINE AB IS THE FLOOD ELEVATION BEFORE ENCROACHMENT.
LINE CD IS THE FLOOD ELEVATION AFTER ENCROACHMENT.
*SURCHARGE IS NOT TO EXCEED 1.0 FOOT (FEMA REQUIREMENT) OR LESSER AMOUNT IF SPECIFIED BY STATE.

FIGURE 2 - Floodway Schematic

5.0 INSURANCE APPLICATION

For flood insurance rating purposes, flood insurance zone designations are assigned to a community based on the results of the engineering analyses. These zones are as follows:

Zone A

Zone A is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no base flood elevations or depths are shown within this zone.

Zone AE

Zone AE is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by detailed methods. Whole-foot base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone X

Zone X is the flood insurance rate zone that corresponds to areas outside the 100-year floodplain, areas of 100-year flooding where average depths are less than 1 foot, areas of 100-year flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 100-year flood by levees. No base flood elevations or depths are shown within this zone.

6.0 FLOOD INSURANCE RATE MAP

The Flood Insurance Rate Map is designed for flood insurance and floodplain management applications.

For flood insurance applications, the map designates flood insurance rate zones as described in Section 5.0 and, in the 100-year floodplains that were studied by detailed methods, shows selected whole-foot base flood elevations or average depths. Insurance agents use the zones and base flood elevations in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

For floodplain management applications, the map shows by tints, screens, and symbols the 100- and 500-year floodplains, the floodways, and the locations of selected cross sections used in the hydraulic analyses and floodway computations.

7.0 OTHER STUDIES

The Special Flood Hazard Information Reports published for the Chattahoochee River and Yellowjacket Creek are in agreement with this study (References 1 and 16).

The Flood Insurance Studies published for the Cities of LaGrange (Reference 2) and Hogansville (Reference 3) are in agreement with this study with regards to streams studied in detail. Special flood hazard areas shown for Blue Creek in the City of Hogansville and for West Point Lake in the City of LaGrange do not match this county study since the approximate studied areas are more extensive in the county. Also, the detailed data for Shoal Creek shown in the county affects the City of LaGrange Flood Insurance Study which has not previously identified flood hazards on that stream. The Flood Insurance Rate Maps for LaGrange and Hogansville should be revised in the future to agree with this study.

The Flood Insurance Study for Chambers County, Alabama (Reference 17) is in agreement with this study except for overflow elevations shown for Oseligee Creek are to high in Chambers County. The Flood Insurance Rate Map for Chambers County should be revised to agree with this study.

The Flood Insurance Studies published for Coweta County, Georgia, Randolph County, Alabama, and the City of West Point, Georgia (References 18-20) and the Flood Insurance Rate Map printed for Heard County, Georgia (Reference 21) are in agreement with this study.

The Flood Insurance Studies in progress for Harris and Meriwether Counties, Georgia (References 22 and 23) are in agreement with this study.

This Flood Insurance Study supersedes the previously printed Flood Hazard Boundary Map for Troup County (Reference 4).

8.0 LOCATION OF DATA

Information concerning the pertinent data used in the preparation of this study can be obtained by contacting the Natural and Technological Hazards Division, FEMA, 1371 Peachtree Street, NE., Suite 736, Atlanta, Georgia 30309.

Future revisions may be made that do not result in the republishing of the Flood Insurance Study report. To assure that any user is aware of all revisions, it is advisable to contact the map repository of flood hazard data located in the community.

9.0 REFERENCES AND BIBLIOGRAPHY

1. U.S. Army Corps of Engineers, Mobile District, Special Flood Hazard Information Report, Chattahoochee River, Alabama-Georgia, West Point Dam to Walter F. George Dam, Mobile, Alabama, April 1979.

2. Federal Emergency Management Agency, Flood Insurance Study, City of LaGrange, Troup County, Georgia, August 1989.

3. ----------, Flood Insurance Study, City of Hogansville, Troup County, Georgia, August 1987.

4. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, Troup County, Unincorporated Areas, Georgia, May 1977.

5. U.S. Department of Commerce, Bureau of the Census, 1980 Census of Population, Number of Inhabitants, Georgia, Washington, D.C., January 1982.

6. Troup County Historical Society and Archives, LaGrange, Georgia.

7. U.S. Department of the Interior, Geological Survey, Water Resources Investigation 78-137, Floods in Georgia, Magnitude and Frequency; Techniques for Estimating the Magnitude and Frequency of Floods in Georgia with Compilation of Flood Data through 1974, McGlone Price, October 1979.

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13. Woolpert Consultants, Aerial Photographs, Troup County, Georgia, Scale 1:14400; Mobile, Alabama, 1986.

14. U.S. Army Corps of Engineers, Hydrologic Engineering Center, HEC-2 Water Surface Profiles, Computer Program 723-X6-L202A, Davis, California, April 1984.

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16. U.S. Army Corps of Engineers, Mobile District, Special Flood Hazard Information Report, Yellowjacket Creek and Hogansville Branch, Mobile, Alabama, June 1979.

17. Federal Emergency Management Agency, Flood Insurance Study, Chambers County, Unincorporated Areas, Alabama, July 1988.

18. ————, Flood Insurance Study, Coweta County, Unincorporated Areas, Georgia, August 1982.

19. ————, Flood Insurance Study, Randolph County, Unincorporated Areas, Alabama, July 1982.

20. ————, Flood Insurance Study, City of West Point, Troup and Harris Counties, Georgia, July 1982.

21. ————, Flood Insurance Rate Map, Heard County, Unincorporated Areas, Georgia, August 1986.

22. ————, Flood Insurance Study, Harris County, Unincorporated Areas, Georgia, in progress.

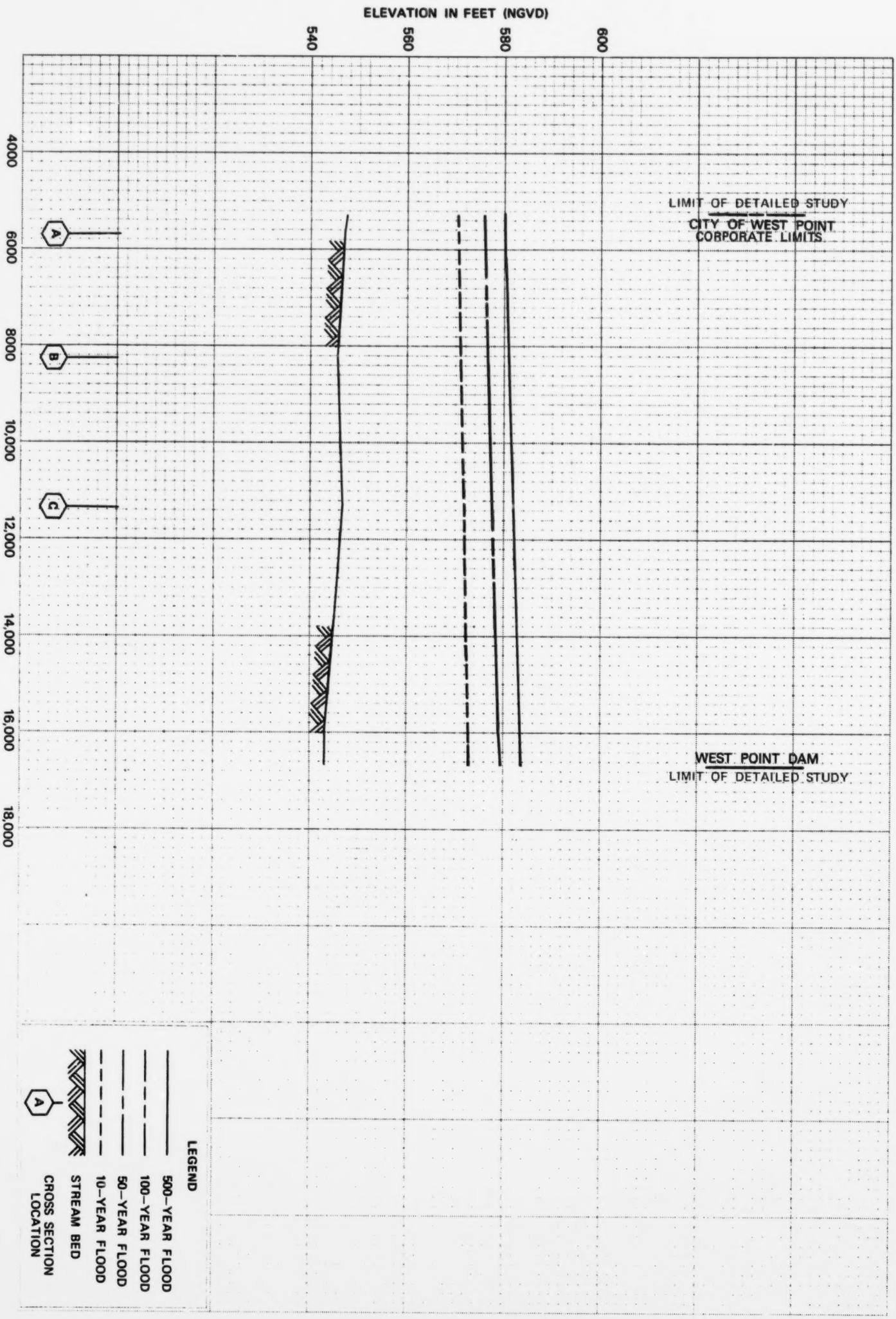
23. ————, Flood Insurance Study, Meriwether County, Unincorporated Areas, Georgia, in progress.

ELEVATION REFERENCE MARKS

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
1	0175	627.85	chiseled square on left downstream side of Hutchinson Mill Road bridge over Long Cane Creek
2	0175	637.09	top of concrete right-of-way monument located along fenceline on west side of southbound Interstate 85 about 1,300 feet northeast of Interstate 85 bridge over Long Cane Creek; adjacent to Troup County Waste Water Treatment Plant
3	0175	655.67	chiseled square on right downstream side of State Route 219 bridge over Long Cane Creek
4	0175	724.09	brass disk monument stamped "BV 141-15" located about 1,400 feet south of intersection of Interstate 85 and State Route 219, about 26.9 feet west of centerline of State Route 219, about 2.7 feet east of power pole
5	0175	671.53	chiseled square on downstream concrete guardrail of State Route 1 bridge over Long Cane Creek
6	0125	676.71	chiseled square on left downstream side of Hood Road bridge over Long Cane Creek
7	0125	692.10	chiseled square on left downstream side of Big Springs Road bridge over Long Cane Creek
8	0125	702.52	chiseled square on left downstream side of Callaway Church Road bridge over Long Cane Creek
9	0125	714.95	chiseled square on left downstream side of CSX railroad bridge over Long Cane Creek

ELEVATION REFERENCE MARKS (Continued)

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
10	0125	828.07	brass disk monument stamped "BV 141-46", located about 2,350 feet southeast of intersection of Lovelace Road and Big Springs Road, about 45.3 feet south of centerline of Big Springs Road, 102.5 feet east of power pole No. 46, about 248 feet west of power pole No. 47
11	0125	811.16	brass disk monument stamped "BV 141-45" located about 3100 feet southeast of intersection of Lovelace Road and Big Springs Road, about 22.8 feet south of centerline of Big Srpings Road, about 40.6 feet west of power pole No. 48
12	0125	725.34	chiseled square on right downstream side of Stewart Road bridge over Long Cane Creek
13	0125	774.80	standard tablet stamped "12 DOP 1962 775" set in concrete post located just west of intersection of Hammett Road and Whitfield Road, about 2 feet southeast of power pole
14	0125	662.71	chiseled square on southwest side of Hammett Road bridge over Shoal Creek
15	0100	646.37	chiseled square on southwest side of Youngs Mill Road bridge over Shoal Creek



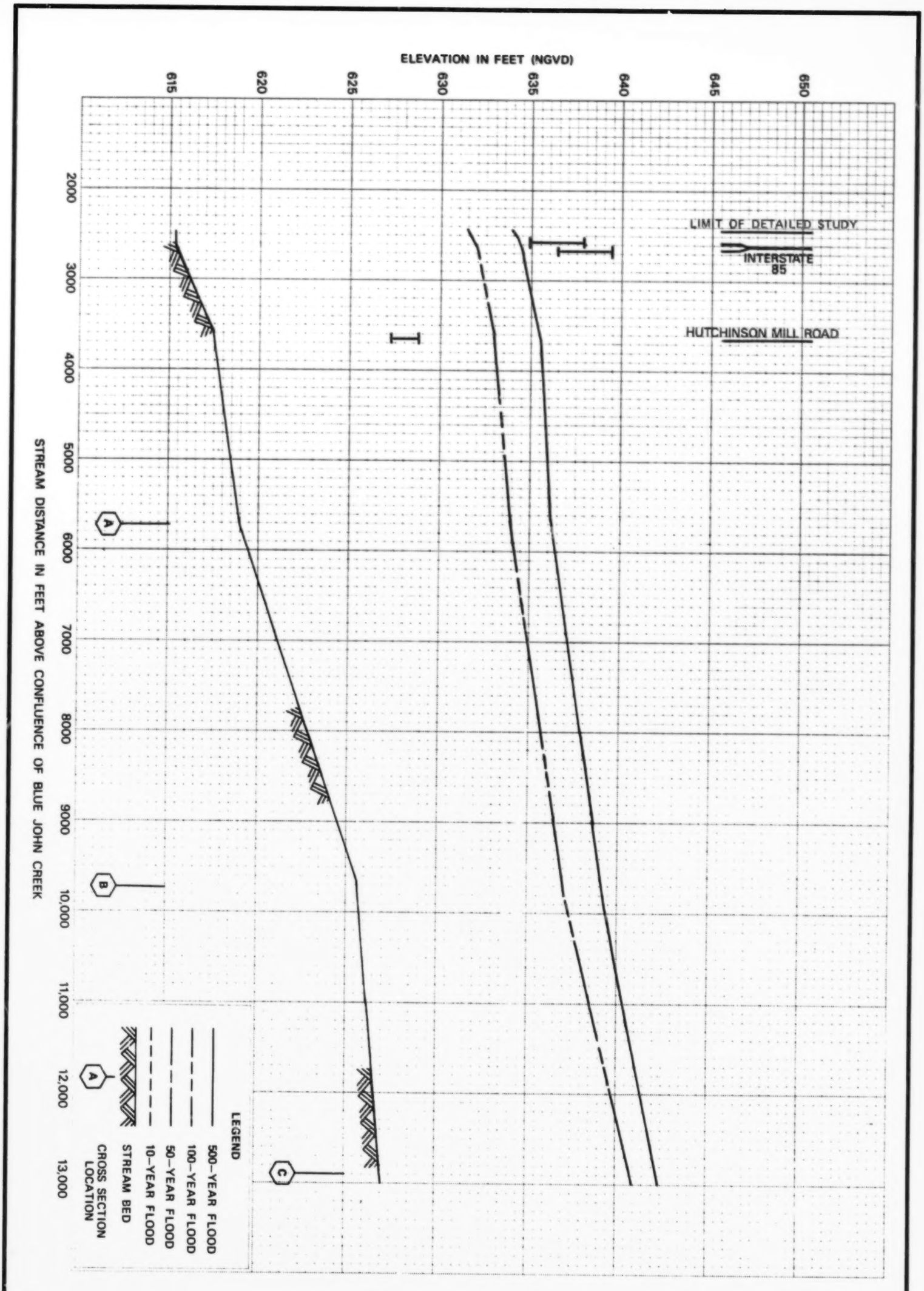
01P

FEDERAL EMERGENCY MANAGEMENT AGENCY

TROUP COUNTY, GA
(UNINCORPORATED AREAS)

FLOOD PROFILES

CHATTAHOOCHEE RIVER



02P

FEDERAL EMERGENCY MANAGEMENT AGENCY

TROUP COUNTY, GA
(UNINCORPORATED AREAS)

FLOOD PROFILES

LONG CANE CREEK

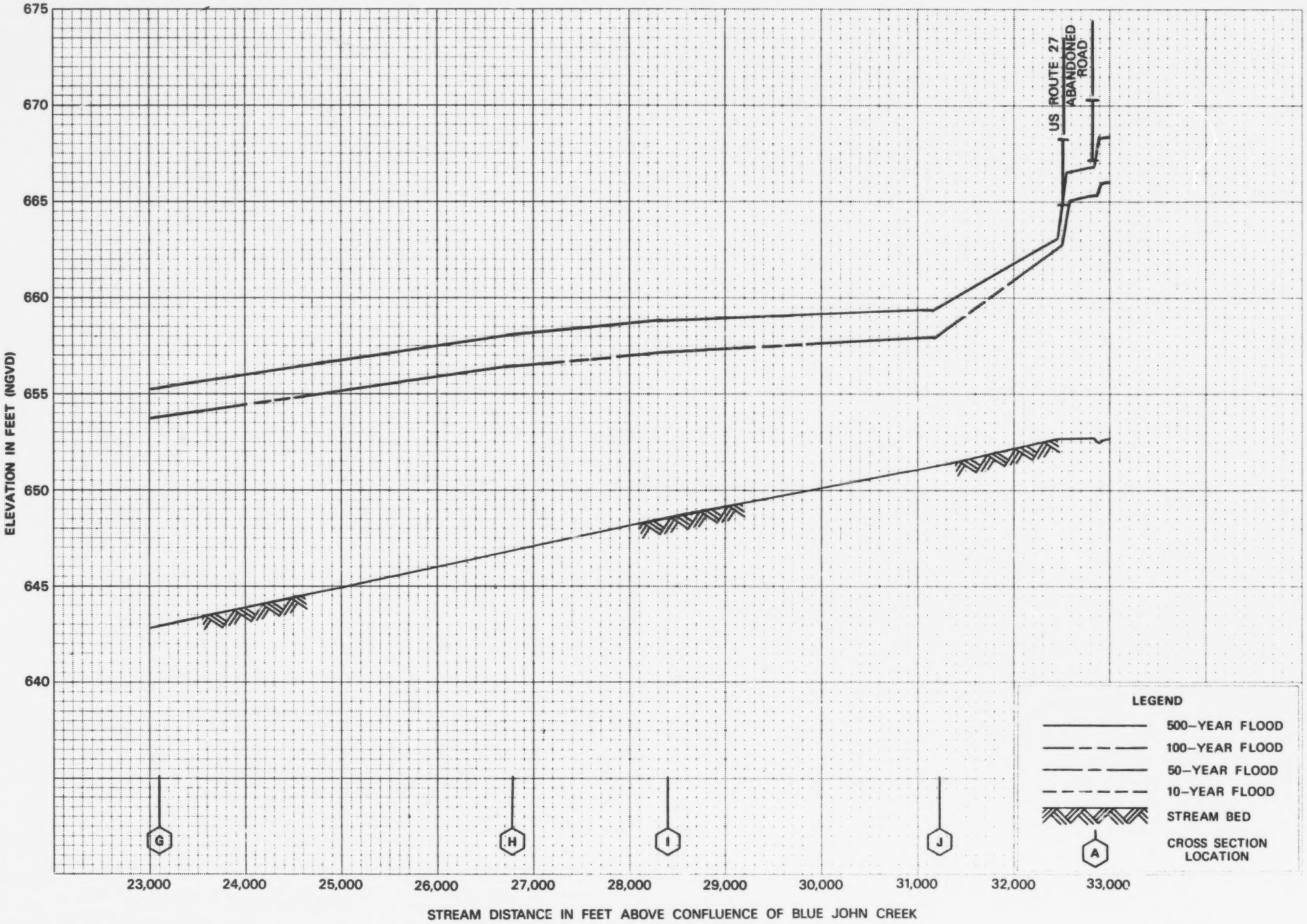
FLOOD PROFILES

LONG CANE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

TROUP COUNTY, GA
(UNINCORPORATED AREAS)

03P



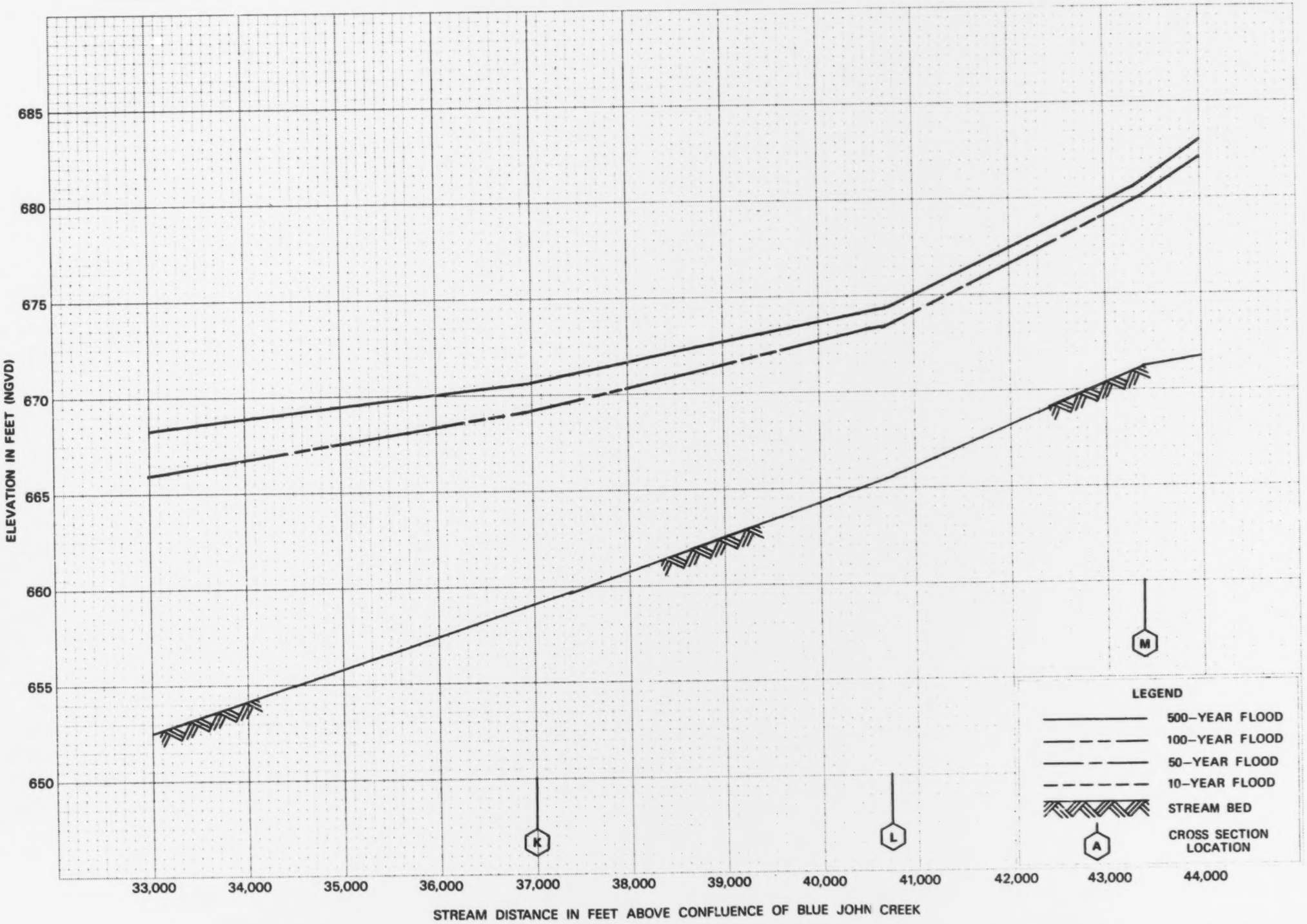
FLOOD PROFILES

LONG CANE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

TROUP COUNTY, GA
(UNINCORPORATED AREAS)

04P



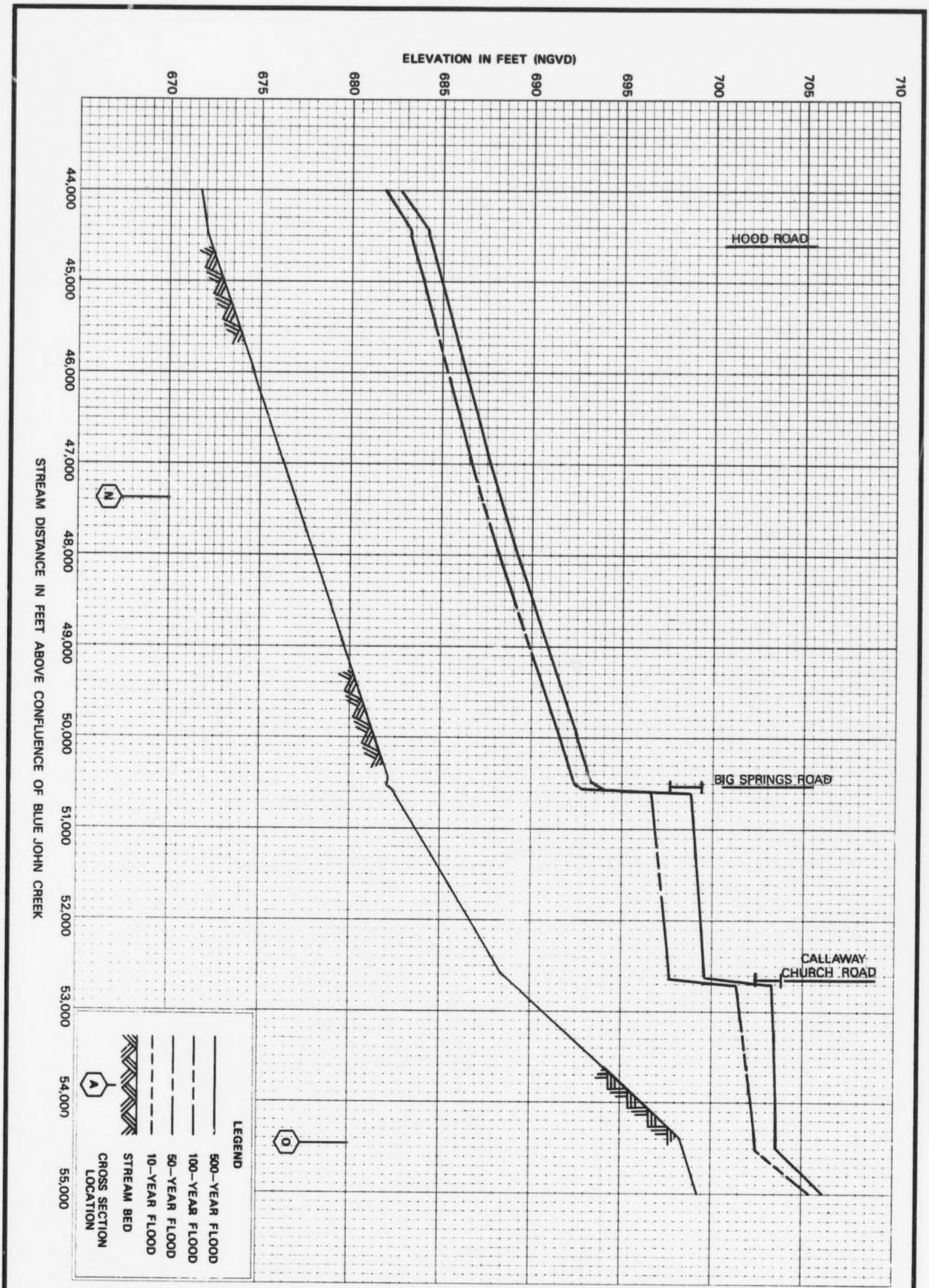
FLOOD PROFILES

LONG CANE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

TROUP COUNTY, GA
(UNINCORPORATED AREAS)

05P



21

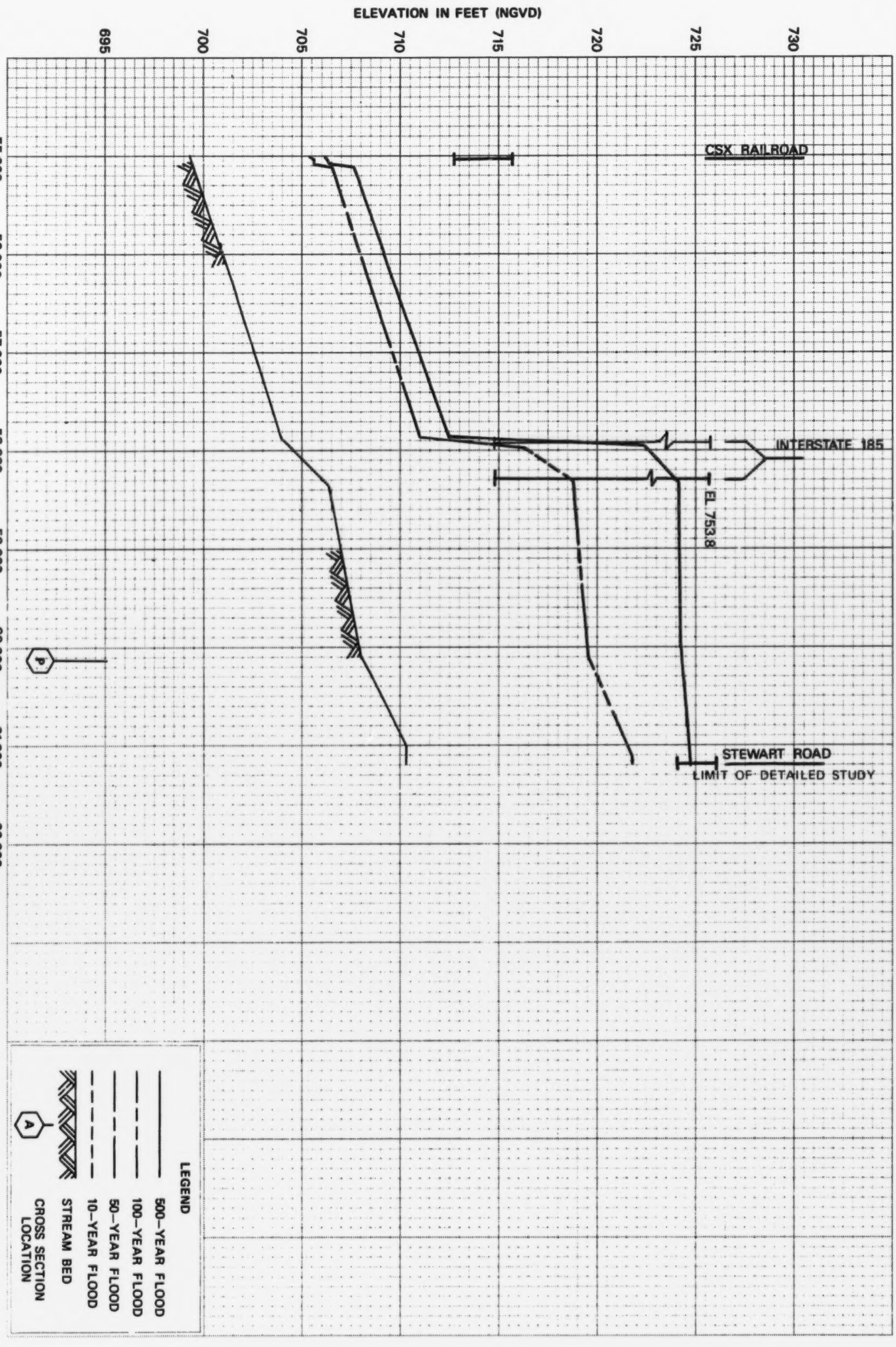
06P

FEDERAL EMERGENCY MANAGEMENT AGENCY

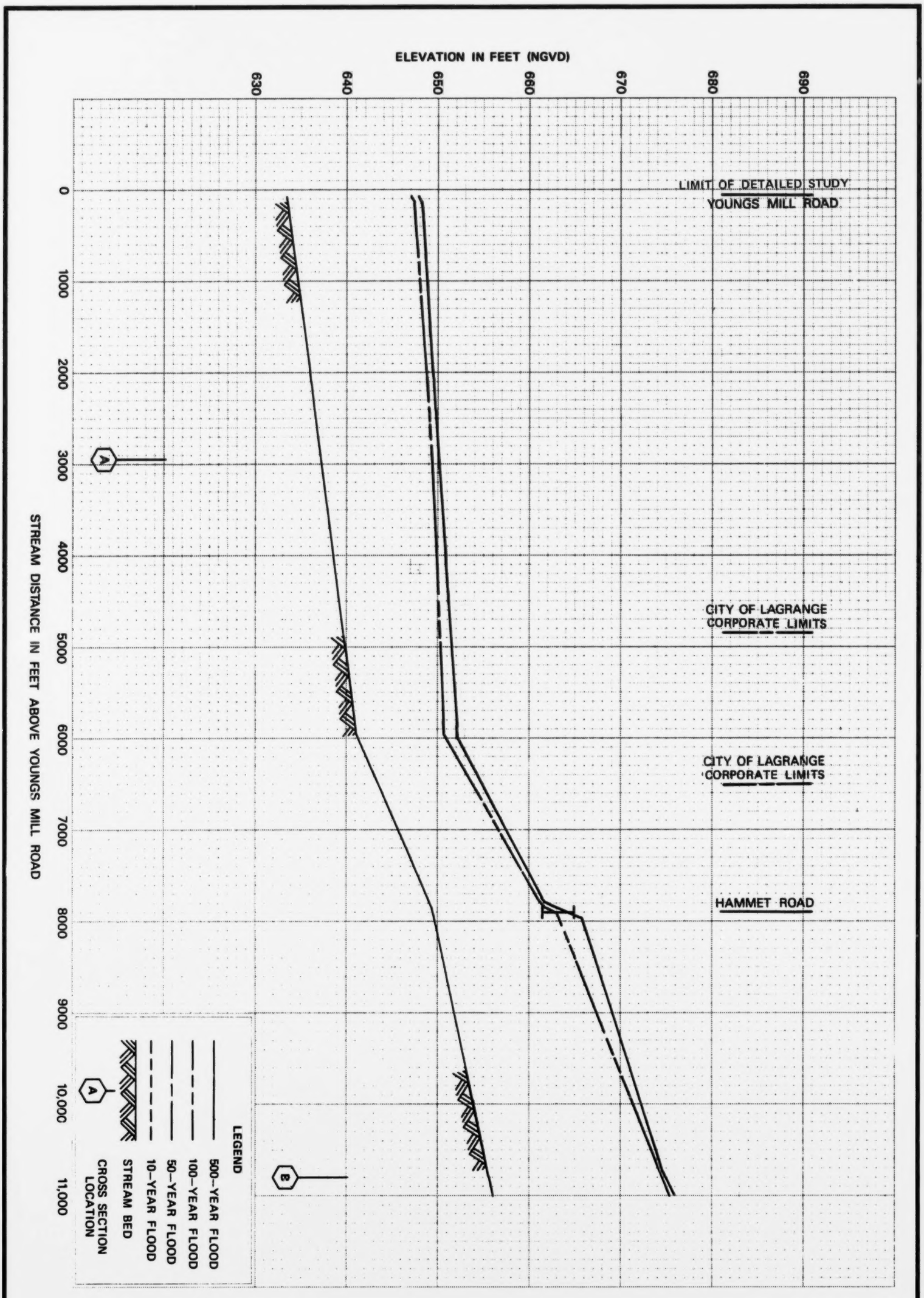
TROUP COUNTY, GA
(UNINCORPORATED AREAS)

FLOOD PROFILES

LONG CANE CREEK

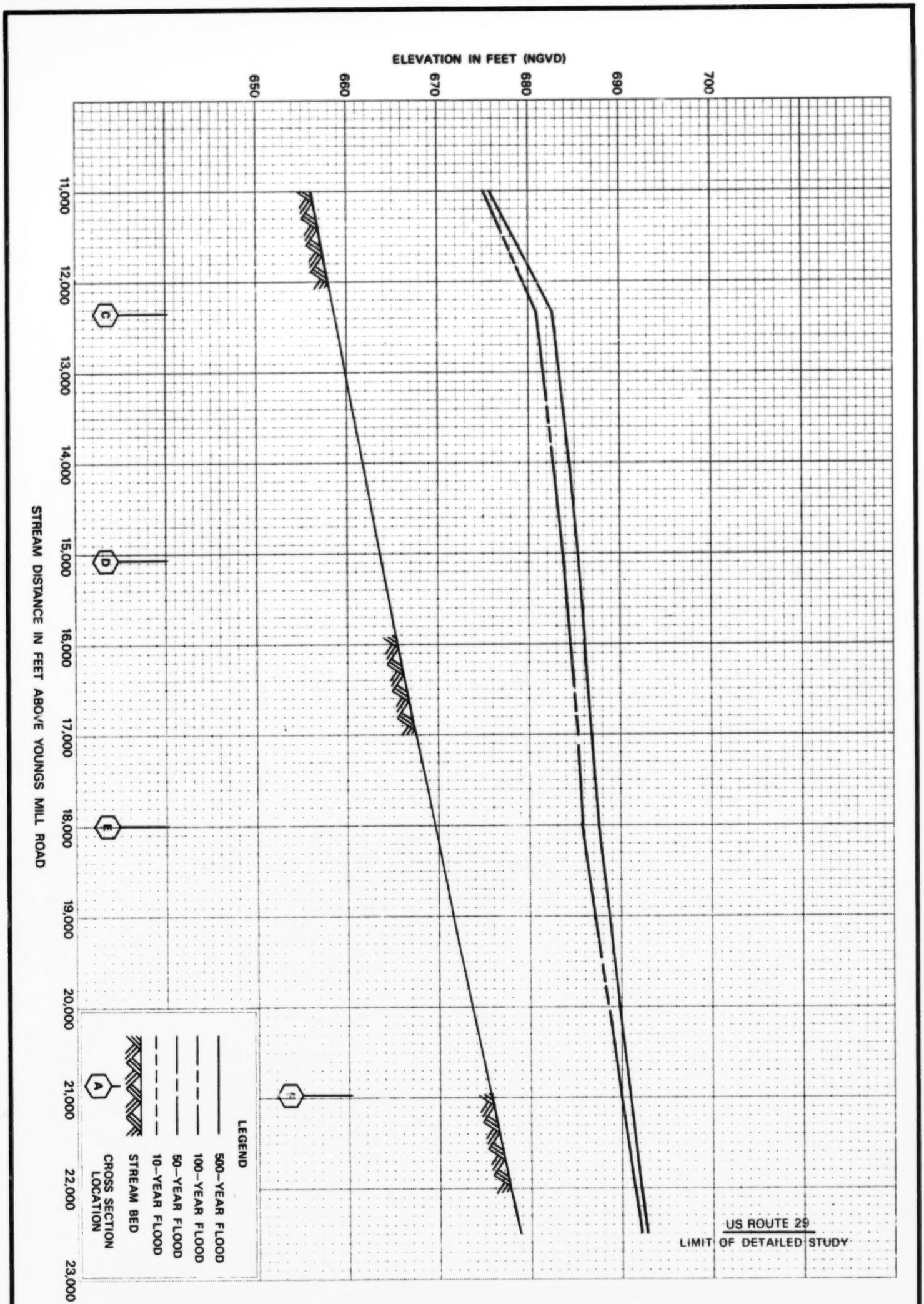


07P	FEDERAL EMERGENCY MANAGEMENT AGENCY **TROUP COUNTY, GA** **(UNINCORPORATED AREAS)**	**FLOOD PROFILES** **LONG CANE CREEK**



23

08P	FEDERAL EMERGENCY MANAGEMENT AGENCY **TROUP COUNTY, GA** (UNINCORPORATED AREAS)	**FLOOD PROFILES** **SHOAL CREEK**



24

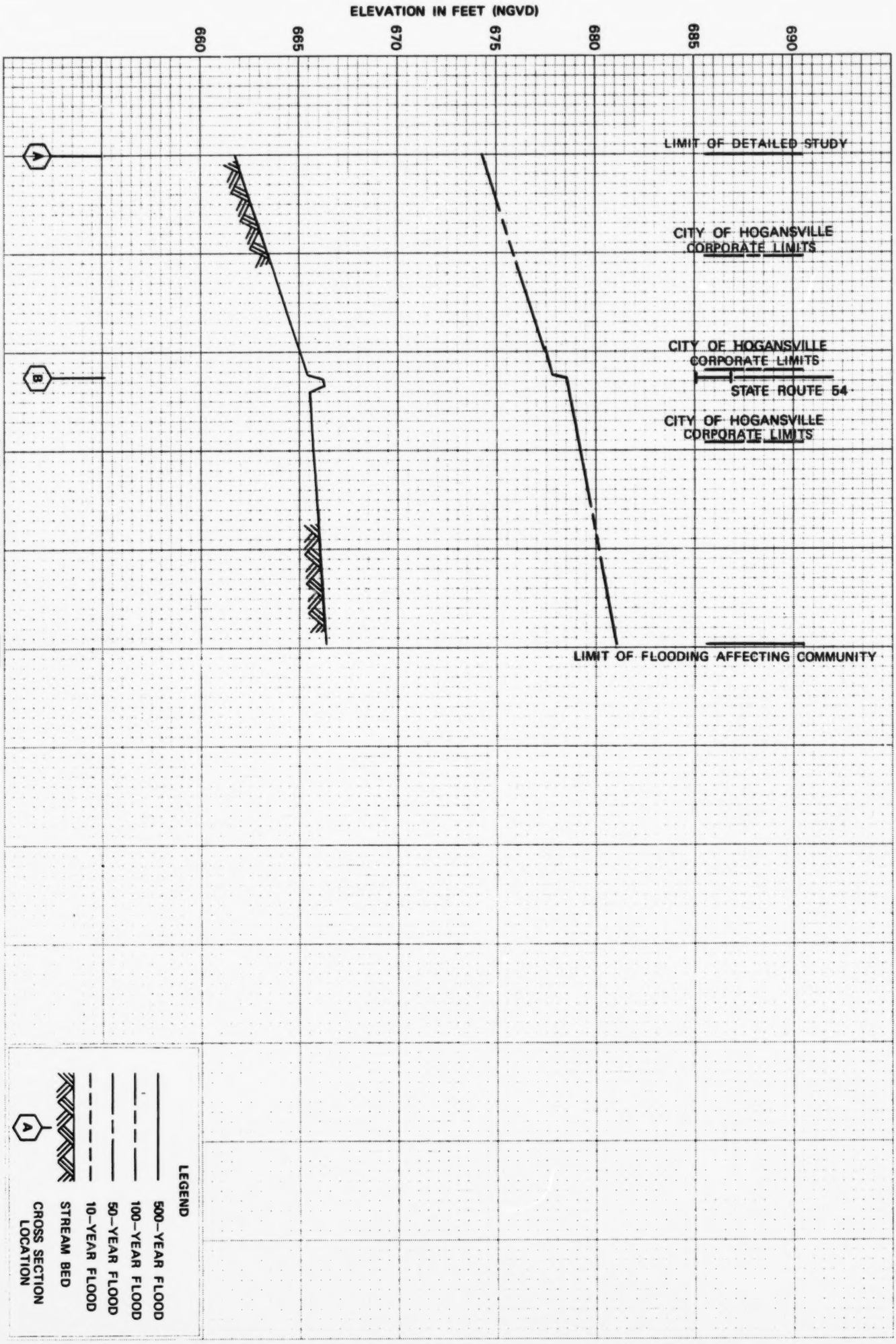
09P

FEDERAL EMERGENCY MANAGEMENT AGENCY

TROUP COUNTY, GA
(UNINCORPORATED AREAS)

FLOOD PROFILES

SHOAL CREEK



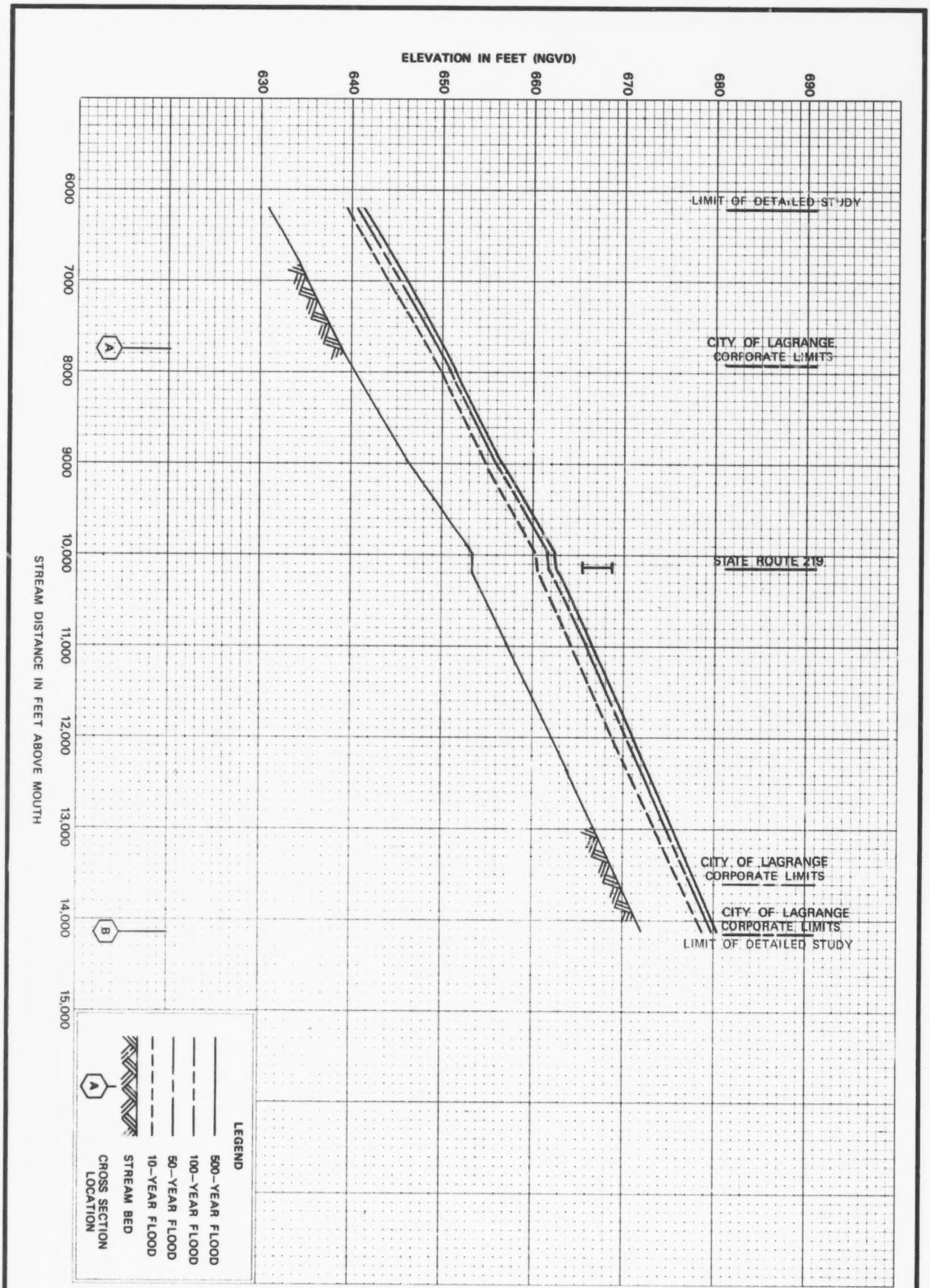
10P

FEDERAL EMERGENCY MANAGEMENT AGENCY

TROUP COUNTY, GA
(UNINCORPORATED AREAS)

FLOOD PROFILES

YELLOWJACKET CREEK



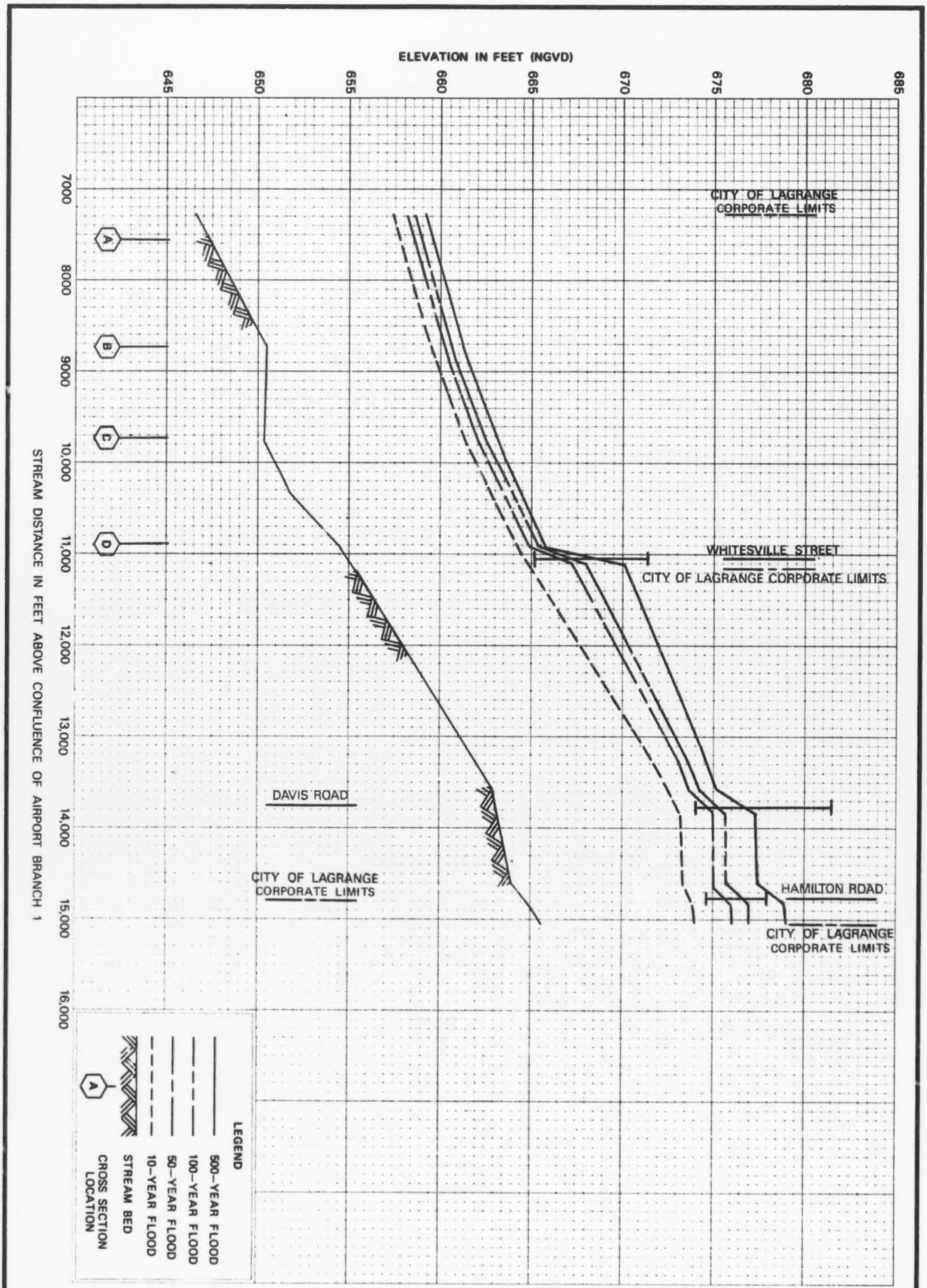
11P

FEDERAL EMERGENCY MANAGEMENT AGENCY

TROUP COUNTY, GA
(UNINCORPORATED AREAS)

FLOOD PROFILES

DIXIE CREEK



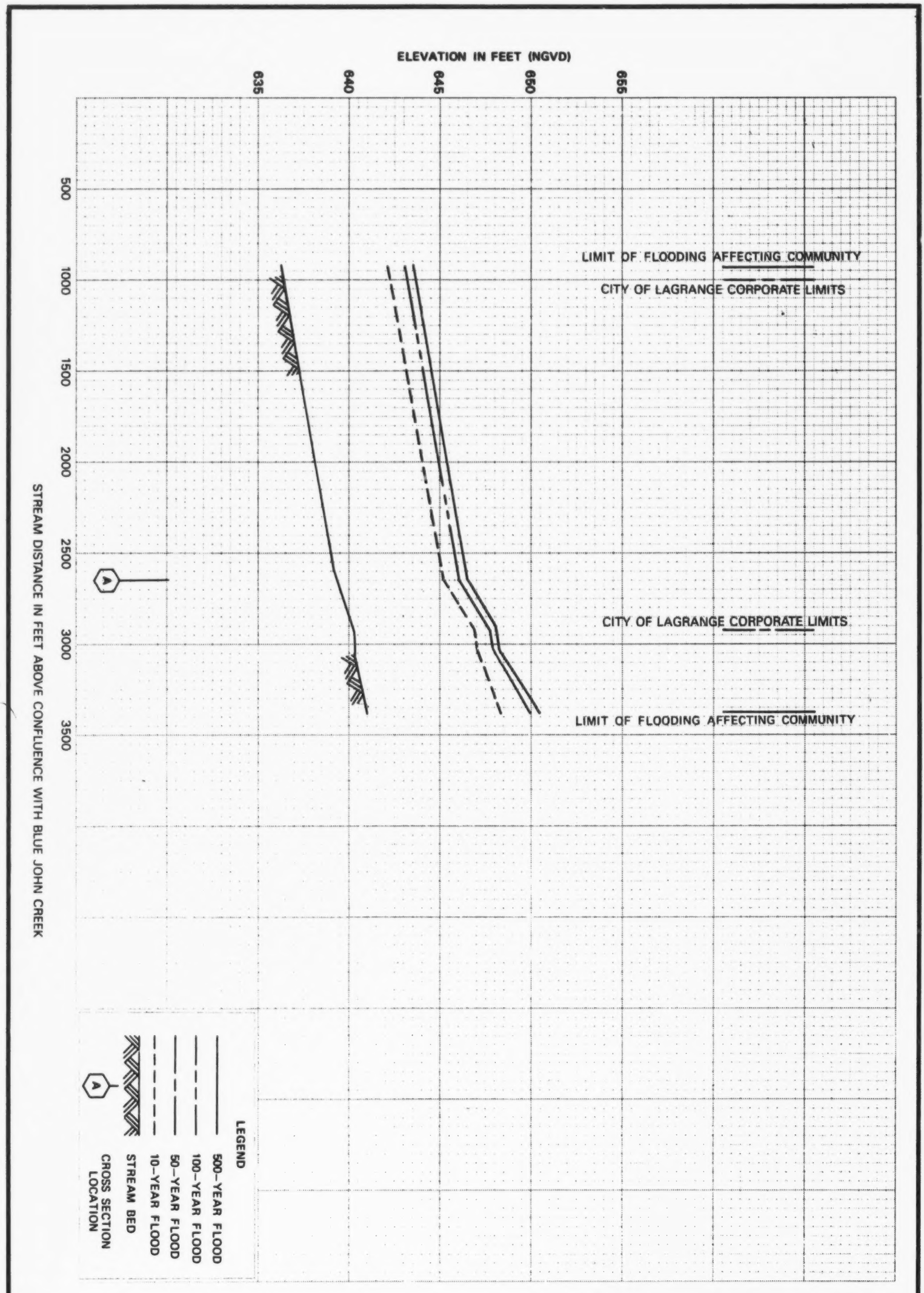
12P

FEDERAL EMERGENCY MANAGEMENT AGENCY

TROUP COUNTY, GA
(UNINCORPORATED AREAS)

FLOOD PROFILES

BLUE JOHN CREEK



13P	FEDERAL EMERGENCY MANAGEMENT AGENCY **TROUP COUNTY, GA** (UNINCORPORATED AREAS)	**FLOOD PROFILES** **AIRPORT BRANCH 1**